## REMARKS

Claims 1 to 32 are pending and rejected. Applicants are herein amending claims 1 to 3, 5 to 13, 15 to 19, 21 to 29, 31, and 32, canceling claims 4 and 20, without prejudice or disclaimer, and adding new claims 33 to 42. Applicants request reconsideration of the pending claims in light of the amendments and following arguments.

### Claim Amendments

Applicants are herein amending claims 1 to 3, 5 to 13, 15 to 19, 21 to 29, 31, and 32. No new matter is introduced by the amendments to the claims. For example, the addition of "assembly structure information" to claims 1 and 17 does not introduce new matter, given that it is a common knowledge among those skilled in the art that three-dimensional CAD (or XVL) data contains an assembly structure of a product. See, for example, US-A-6,157,902 that states in column 21, lines 5 to 66: "A product, which is designed with the use of a three dimensional CAD system, has usually,...configuration data for parts and assembly arrangement information."

Applicants are herein canceling claims 4 and 20, without prejudice or disclaimer. Applicants explicitly reserve the right to file one or more continuation applications to the cancelled subject matter.

Applicants are adding new claims 33 to 42. No new matter is introduced by the new claims. For example, support for new claims 35 and 40 may be found in Figure 4C where setting up the displaying and non-displaying of parts in each process is shown.

**Rejection under 35 U.S.C. § 112, second paragraph**

Claims 2 to 9, 11 to 16, 18 to 25, and 27 to 32 are rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for the use of the terms "basic process" and "intermediate process." Applicants traverse the rejection.

On page 7, lines 16 to 19 of the specification, applicants define each "node" to include a "basic process" and an "intermediate process" performed in the basic process. On page 8, lines 15 to page 9, line 11, with reference to Figures 4A to 4D, applicants describe the intermediate processes and the basic process and the relationship thereof. Applicants describe that the basic process is divided up into a plurality of intermediate processes or steps (See Figure 4D where it is shown that Intermediate Process-2 is Step 1, Intermediate Process 3 is Step 2, and Intermediate Process 4 is Step 3, together making up Basic Process-1).

Applicants submit that a skilled artisan would have no difficulty understanding what is meant by "basic process" and "intermediate process," based on the description in the specification and the drawings. Accordingly, applicants submit that claims 2, 3, 5 to 9, 11 to 16, 18, 19, and 21 to 25, and 27 to 32, as amended, are definite under 35 U.S.C. § 112, first paragraph, and therefore request withdrawal of the rejection.

**Rejection under 35 U.S.C. § 102(b)**

Claims 1, 2, 10 to 14, 17, 18, and 26 to 30 are rejected under 35 U.S.C. § 102(b) as allegedly, second paragraph, as alleged anticipated by US-A-6,157,902 ("Hirata"). Applicants traverse the rejection because Hirata fails the disclose, teach, or suggest, *inter alia*, a step where a user defines disassembling process definition information for disassembling the product into its component parts.

Hirata discloses a process to generate an optimal disassembly route ***automatically*** from assembly structure information imported from an outside CAD system (See, for example, column 13, lines 39 to 52), based on predefined rules of moving parts and checking

for interference between the parts. Hirata's process, as shown in Figure 10, starts by selecting a terminal part that has no child part, then checks for collision, if dissembling is not successful, then the next terminal part in the original assembly tree like Figure 26 is selected and the same steps are followed until an entire disassembly route is determined. Hirata's process relies heavily on the information in original assembly tree information ("part tree structure" in Hirata), and no process definition information, as required by applicants' claimed invention, is created.

It appears that claims 1, 2, 10-14, 17, 18, and 26-30 were rejected because the Office mistook the "disassembling process definition information" in the present invention with the assembly structure information, which is included normally in any three-dimensional CAD data.

Hirata describes assembly structure information, in column 21, lines 60 to65 as "A product, which is designed with the use of a three-dimensional CAD system, has usually, as shown in FIG. 26, configuration data for parts and assembly arrangement information as well including a membership (indicating as to what child part is to be associated with what parent part) of the parts." As shown in Figure 26, parts have numbers that have been assigned on them, however, neither the order of their appearance (*e.g.,* top to bottom) nor the reference numbers constitutes any order in actual assembling or disassembling.

On the other hand, "disassembling process definition information" as used in the pending claims are user-defined processes that define the order of assembling/disassembling, and each process (node) is a basic unit of process animation, where attributes of each animation section is defined. Both assembly structure information and "disassembling process definition information" have a tree structure, but assembly structure information does not have process tree information.

The Office erroneously quotes in a number of instances that descriptions of the assembly structure information or how the information is loaded in Hirata as "disassembly definition information" created by Hirata's process. For example, on page 4 of the Office

Action, it states that "Hirata describes disassembly information that defines dependency relationships among parts and group relationship among groups, and comprises a tree structure consisting of nodes and leaves, which are processes and parts, respective in column 21 lines 60-65 ('A product, which is designed with the use of a three-dimensional CAD system, has usually, as shown in FIG. 26, configuration data for parts and assembly arrangement information as well including a membership (indicating as to what child part is to be associated with what parent part) of the parts'.". However, as explained above, column 21, lines 60 to 65 in Hirata describe the original assembly structure information.

The main difference between the claimed invention and Hirata is that the claimed invention provides a ***user full control*** for the creating of process trees from assembly structure data of a given product, which is entirely distinct from the original assembly structure data. On the other hand, a large portion of the disassembly route is determined ***automatically*** in Hirata's process. For example, in Hirata's process, both direction and distance of movement of a part/part group is automatically determined by prescribed rules as in Figure 10, but in the claimed invention, a user defines the direction of an intended movement for a given process animation.

Furthermore, Hirata's process is bound to the original assembly structure information. According to Hirata, a disassembly route search starts from selecting a terminal part having no child part (column 22, lines 13 to 14) by the Part selection routine 100, then after each execution of the automatic disassembly route producing routine 200, it returns to the next terminal part without no child part (column 22, lines 19 to 24) in the tree structure. Even though assembly structure information such as the one in Figure 26 have a Parts group number, such as "PART 1," "PART 2," and so forth, these numbers do not represent the order of assembling or disassembling. Rather, this sequential search by the Part selection routine 100 in Hirata is based on the parts numbers in the assembly structure information.

Given that assembly structure information is neither created by an engineer or intended for actual assembly/disassembly process, generating a useful assembly route based on the assembly structure information like Hirata would meet with limited success.

The claimed invention is distinct from and provides advantages over Hirata because it is not bound to the assembly structure information, but it allows users to create the most appropriate assembling and disassembly process trees and set up animation attributes for each process.

Since Hirata does not disclose each and every element of the claim either explicitly or inherently, Hirata does not anticipate claims 1, 2, 10 to 14, 17, 18, and 26 to 30. Accordingly, applicants request withdrawal of the rejection under 35 U.S.C. § 102(b) over Hirata.

## Conclusions

Applicants requests:

(1) entry of the amendments to the claims;

(2) reconsideration and withdrawal of the rejections of the claims; and

(3) allowance of claims 1 to 3, 5 to 19, and 21 to 42.

If the Examiner is of a contrary view, the Examiner is requested to contact the undersigned attorney at (404) 459-5642.

Date: April 13, 2007

/Wendy A. Choi/
Wendy A. Choi
Registration No. 36,697

WOODCOCK WASHBURN LLP
Cira Centre
2929 Arch Street, 12th Floor
Philadelphia, PA 19104-2891
Telephone: (215) 568-3100
Facsimile: (215) 568-3439